

Claim Status

1. **(Previously Presented)** A tape dispenser system for supporting a roll of tape having a liner, separating the tape from the liner and applying the tape to a glass sheet, comprising:

- a) a frame;
- b) a tape spool rotatably mounted to said frame;
- c) a drive roller rotatably mounted to said frame for controlling a length of such tape unwound from said tape spool;
- d) a platen having an angular front end portion that causes such liner to separate from such tape;
- e) a rewind spool rotatably mounted to said frame, said tape spool, drive roller, platen and rewind spool defining a path of travel from said tape spool, around said drive roller, around said front end portion of said platen, to said rewind spool;
- f) a gantry that supports and moves said frame relative to a surface of the glass sheet;
- g) an optical sensor coupled to said frame for detecting edges of such glass sheet; and
- h) a controller coupled to said gantry and said sensor for determining a sensed orientation of the glass sheet based on optical sensor outputs and moving the frame to apply the tape at a controlled angle based on said sensed orientation .

2. **(Original)** The tape dispenser of claim 1 further comprising a slip clutch tensioner interposed between said tape spool and said frame.

3. **(Original)** The tape dispenser of claim 1 further comprising a sensor coupled to said drive roller that measures a length of such tape that travels past said drive roller.

4. **(Cancelled)**

5. **(Original)** The tape dispenser of claim 1 further comprising a die connected to said frame, said die being located along said path of travel between said tape spool and said platen and being configured to score such tape.

6. **(Original)** The tape dispenser of claim 1 further comprising a pressure roller rotatably mounted to said frame, said pressure roller being configured to apply pressure to such tape as such tape is applied to such glass.

7. **(Original)** The tape dispenser of claim 6 wherein said pressure roller is mounted to said frame by a pneumatic actuator for moving the pressure roller.

8. **(Original)** The tape dispenser of claim 6 further comprising a position sensor coupled to such pressure roller for determining a distance between said dispenser and such glass.

9. **(Cancelled)**

10. **(Original)** The tape dispenser of claim 1 further comprising a motor coupled to said rewind spool.

11. **(Original)** The tape dispenser of claim 10 wherein said motor is coupled to the rewind spool by a slip clutch tensioner.

12. **(Currently Amended)** A tape dispenser for supporting a roll of tape having a liner, separating the tape from the liner and applying the tape to a surface, comprising:

a) a frame;

b) ~~a tape spool rotatably mounted to said frame~~; a removable cartridge attached to said frame;

c.) a tape spool rotatably mounted to said removable cartridge;

d) a drive roller ~~e) a drive roller~~ rotatably mounted to said frame for controlling a length of such tape unwound from said tape spool;

e) a platen having an angular front end portion that causes such liner to separate from such tape, wherein said platen is mounted to the removable cartridge; and

f) a rewind spool rotatably mounted to said removable cartridge ~~e) a rewind spool rotatably mounted to said frame~~, said tape spool, drive roller, platen and rewind spool defining a path of travel from said tape spool, around said drive roller, around said front end portion of said platen, ~~to said rewind spool;~~ to said rewind spool.

~~f) wherein said tape spool, platen and rewind spool are mounted to a removable cartridge that attaches to said frame.~~

13. **(Currently Amended)** A tape dispenser for supporting a roll of tape having a liner, separating the tape from the liner and applying the tape to a glass surface, comprising:

- a) a frame;
- b) a tape spool rotatably mounted to said frame by a slip clutch tensioner;
- c) a drive roller rotatably mounted to said frame by a servo motor that includes a first sensor that measures a length of such tape that travels past said drive roller;
- d) a platen having an angular front end portion that causes such tape to separate from such liner;
- e) a rewind spool rotatably mounted to said frame by a motor and a second slip clutch tensioner, said tape spool, drive roller, platen and rewind spool defining a path of travel from said tape spool, around said drive roller, around said front end portion of said platen, to said rewind spool;
- f) a die connected to said frame, said die being located along said path of travel and being configured to score such tape;
- g) a pressure roller rotatably mounted to said frame by a pneumatic actuator, said pressure roller being configured to apply pressure to such tape as such tape is applied to such glass;
- h) a position sensor coupled to such pressure roller for determining a distance between said dispenser and the glass surface when the roller contacts the tape and/or the glass surface; and

g) i) an actuator for moving the tape dispenser to a specified distance above
~~platen up and down relative~~ the glass surface based on an output from the position sensor.

14. (Cancelled)

15. (Original) The tape dispenser of claim 13 further comprising an optical sensor coupled to said frame for detecting edges of such glass.

Claims 16-22 (Withdrawn)

23. (Previously Presented) A tape application system for separating a tape from a liner and applying the tape to a surface of a glass plate, comprising:

- a) a table for supporting such glass plate;
- b) a gantry mounted to said table such that said gantry is movable in a first direction along substantially parallel sides of said table;
- c) a dispenser actuator mounted to said gantry such that said dispenser actuator is movable in a second direction along said gantry;
- d) a tape dispenser mounted to said dispenser actuator such that movement of a linkage of said dispenser actuator causes said dispenser to move in a third direction and such that said tape dispenser is rotatable with respect to said gantry;
- e) an optical sensor mounted to said tape dispenser for detecting points along edges of such glass plate; and,
- f) a controller coupled to said gantry, said dispenser actuator and said optical sensor for determining a position and orientation of such glass plate based on a position of the points as sensed by said optical sensor and moving said tape dispenser based on said position and orientation with respect to such glass plate.

24. (Previously Presented) A tape application system for separating a tape from a liner and applying the tape to a surface of a glass plate, comprising:

- a) a table for supporting such glass plate;

- b) a gantry mounted to said table such that said gantry is movable in a first direction along substantially parallel sides of said table;
- c) a dispenser actuator mounted to said gantry such that said dispenser actuator is movable in a second direction along said gantry;
- d) a tape dispenser mounted to said dispenser actuator such that movement of a linkage of said dispenser actuator causes said dispenser to move in a third direction and such that said tape dispenser is rotatable with respect to said gantry, said tape dispenser including a removable cartridge comprising a tape spool, platen and rewind spool that are mounted to the removable cartridge of said tape dispenser;
- e) an optical sensor mounted to said tape dispenser for detecting points along edges of such glass plate; and,
- f) a controller coupled to said gantry, said dispenser actuator and said optical sensor for positioning and orientating said tape dispenser with respect to such glass plate.

25. **(Original)** The tape application system of claim 23 further comprising a slip clutch tensioner interposed between ~~said tape spool~~ a tape spool and a frame of said dispenser and ~~said frame~~.

26. **(Previously Presented)** The tape application system of claim 23 further comprising a drive roller and for pulling tape from a tape spool of the dispenser ~~the tape spool~~ and a sensor coupled to said drive roller that measures a length of such tape that travels past said drive roller.

27. **(Cancelled)**

28. **(Previously Presented)** The tape application system of claim 23 further comprising a die connected to a frame of the dispenser ~~said frame~~, said die being located along a tape path of travel and being configured to score such tape.

29. **(Original)** The tape application system of claim 23 further comprising a pressure roller rotatably mounted to a frame of the dispenser ~~said frame~~, said pressure

roller being configured to apply pressure to such tape as such tape is applied to such glass.

30. **(Previously Presented)** The tape application system of claim 24 wherein a pressure roller ~~said pressure roller~~ is mounted to a frame of the dispenser ~~said frame~~ by a pneumatic actuator.

31. **(Original)** The tape application system of claim 30 further comprising a position sensor coupled to said pressure roller for determining a distance between said dispenser and such glass.

32. **(Original)** The tape application system of claim 30 further comprising a position sensor coupled to said pressure roller and said dispenser actuator configured to determine a distance between said dispenser frame and such glass based on a sensed location of the pressure roller and to cause said dispenser actuator to move said dispenser frame with respect to said glass in response to said sensed location.

33. **(Original)** The tape application system of claim 23 further comprising a sensor coupled to a frame of the dispenser ~~said frame~~ for detecting edges of such glass.

34. **(Previously Presented)** The tape application system of claim 24 further comprising a motor coupled to said rewind spool.

35. **(Original)** The tape application system of claim 34 wherein said motor is coupled to rewind spool by a slip clutch tensioner.

Claims 36-45: **(Withdrawn)**

46. **(Previously Presented)** A tape application system for applying a tape that creates the appearance of a bevel to a surface of a glass plate, comprising:

a) a table for supporting such glass plate;

- b) a gantry mounted to said table such that said gantry is movable in a first direction along said table;
- c) a dispenser actuator mounted to said table such that said dispenser actuator is movable in a second direction along said gantry;
- d) a tape dispenser mounted to said dispenser actuator such that movement of a linkage of said dispenser actuator causes said tape dispenser to move in a third direction that is normal to said glass plate;
- e) a pressure application wheel mounted to said dispenser for linear movement with respect to said tape dispenser, said pressure application wheel engaging said glass plate such that variations in thickness of said glass cause said pressure application wheel to move with respect to said tape dispenser;
- f) a position sensor coupled to said pressure application wheel and said dispenser actuator wherein movement of said pressure application wheel caused by contact between said pressure application wheel and said glass is sensed by said sensor and communicated to said dispenser actuator to move said dispenser with respect to said glass plate.

47. **(Original)** The tape application system of claim 46 further comprising an optical sensor mounted to said dispenser for detecting edges of said glass plate.

Claims 48-49: **(Withdrawn)**

50. **(Previously Presented)** A tape application system for applying a tape that creates the appearance of a bevel to a surface of a glass plate, comprising:

- a) a table for supporting such glass plate;
- b) a gantry mounted to said table such that said gantry is movable in a first direction along said table;
- c) a dispenser actuator mounted to said table such that said dispenser actuator is movable in a second direction along said gantry;
- d) a tape dispenser mounted to said dispenser actuator for dispensing a tape onto said glass plate;

e) an optical sensor mounted to said dispenser actuator for sensing edges of said glass plate; and,

f) a controller coupled to said optical sensor for determining an orientation of the edges of said glass plate, and further coupled to said gantry and said dispenser actuator for positioning and orienting said dispenser for movement with respect to such glass plate based on the orientation.

Claims 51-57: (Withdrawn)

58. (Previously Presented) A tape dispenser for supporting a roll of tape having a liner, separating the tape from the liner and applying the tape to a glass surface, comprising:

- a) a frame;
- b) a tape spool rotatably mounted to said frame by a slip clutch tensioner;
- c) a drive roller rotatably mounted to said frame by a servo motor that includes a first sensor that measures a length of such tape that travels past said drive roller;
- d) a platen having an angular front end portion that causes such tape to separate from such liner;
- e) a rewind spool rotatably mounted to said frame by a rewind motor and a second slip clutch tensioner, said tape spool, drive roller, platen and rewind spool defining a path of travel from said tape spool, around said drive roller, around said front end portion of said platen, to said rewind spool;
- f) a die connected to said frame, said die being located along said path of travel and being configured to score such tape;
- g) a pressure roller rotatably mounted to said frame by a pneumatic actuator, said pressure roller being configured to apply pressure to such tape as such tape is applied to such glass;
- h) a chad remover for contacting the tape downstream along a path of tape travel to remove cut portions from said tape prior to contact with the glass surface; and
- i) a controller for coordinating actuation of the chad remover, servo motor and rewind motor to stop movement of the tape by de-activating the servo motor to stop tape

movement and bring the chad remover into contact with the tape while maintaining operation of the rewind motor to maintain tension in the tape as the chad is removed.